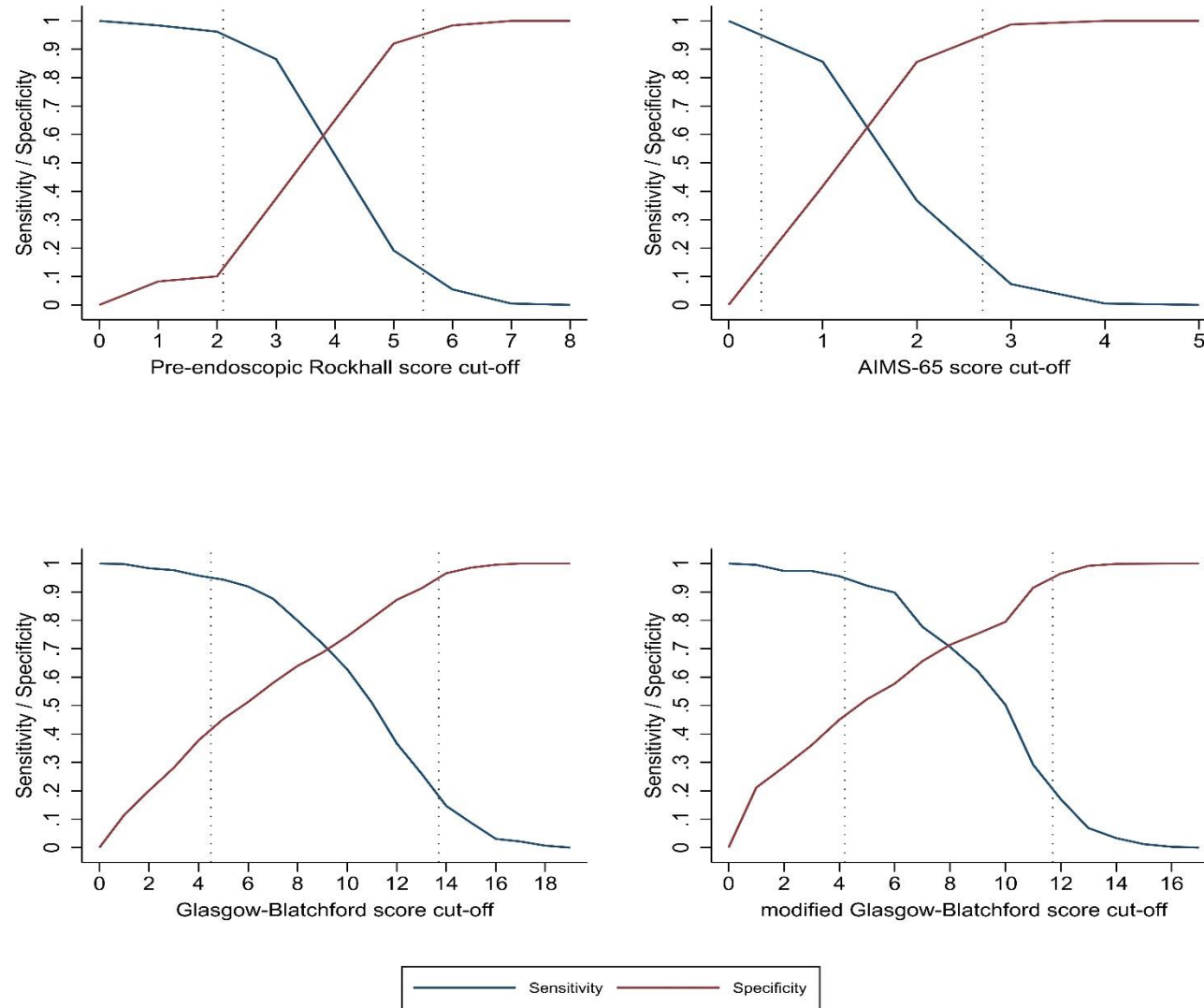


ADDITIONAL FILES

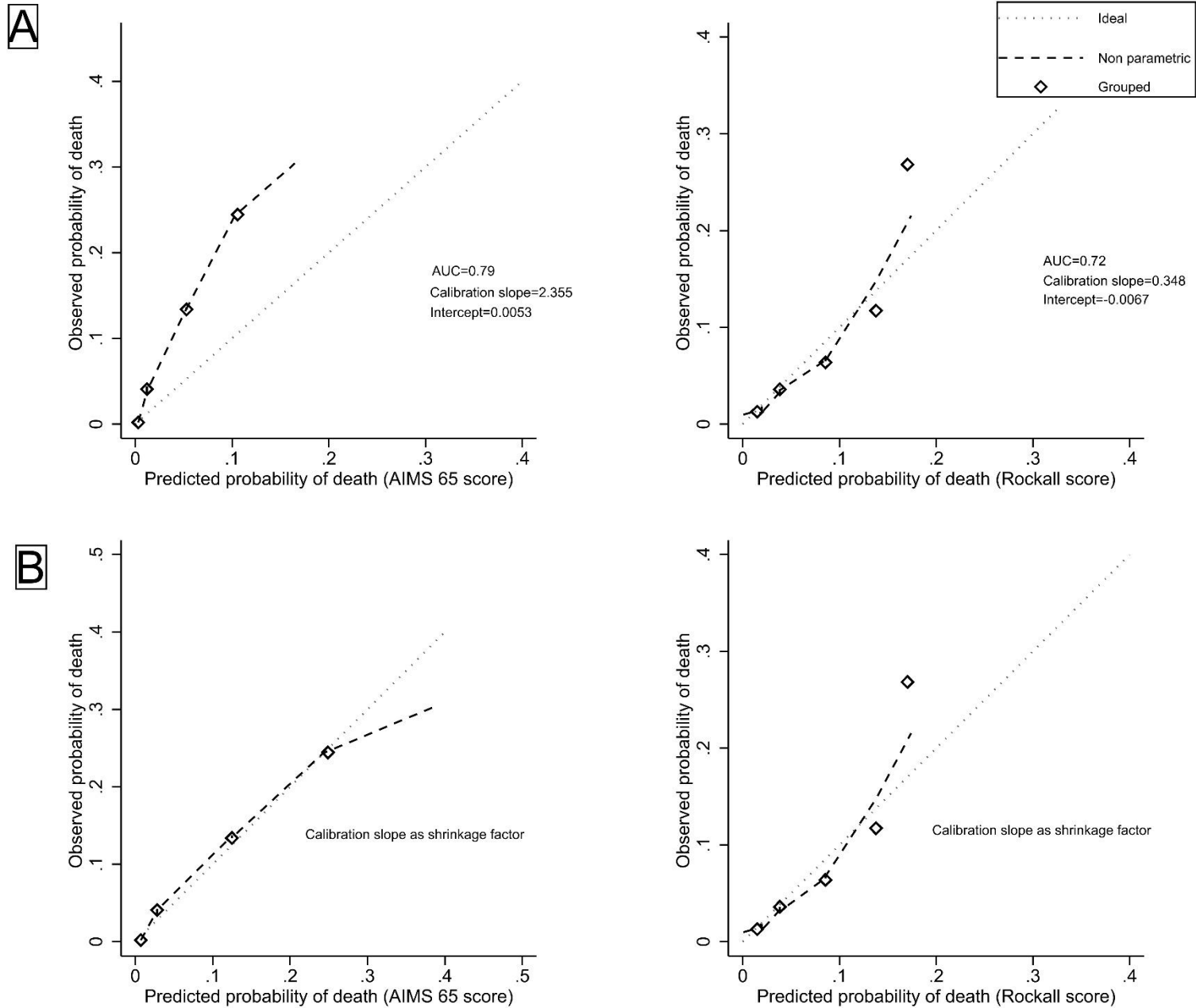
Supplement table 1. Description of the variables included in each UGIB scores.

| | Glasgow-Blatchford | | Modified Glasgow-Blatchford | Rockall (pre-endoscopy) | | AIMS 65 | |
|---------------------------------|--------------------|----|-----------------------------|---|----|---------|----|
| Age (years) | | | | | | | |
| <60 | | | | | 0 | | |
| 60-79 | | | | | +1 | | |
| ≥ 65 | | | | | | | +1 |
| ≥80 | | | | | +2 | | |
| Initial systolic blood pressure | >100-109 | +1 | +1 | SBP≥100 and HR<100 | 0 | | |
| | 90-99 | +2 | +2 | SBP≥100 and HR≥100 | +1 | | |
| | <90 | +3 | +3 | SBP<100 | +2 | ≤90 | +1 |
| Heart rate ≥ 100 | | +1 | +1 | | | | |
| Melena present | | +1 | - | | | | |
| Recent syncope | | +2 | - | | | | |
| Hepatic disease | | +2 | - | No comorbidity | 0 | | |
| Cardiac failure | | +2 | - | Any comorbidity (except) | +2 | | |
| Hemoglobin | | | | Renal, hepatic failure and/or disseminated malignancy | +3 | | |
| For women ≥100 and <120 | | +1 | +1 | | | | |
| <100 | | +6 | +6 | | | | |
| For men ≥ 120 and <130 | | +1 | +1 | | | | |
| ≥100 and <120 | | +3 | +3 | | | | |
| <100 | | +6 | +6 | | | | |
| Blood urea nitrogen (mmol/l) | | | | | | | |
| 6.5 -8 | | +2 | +2 | | | | |
| 8-10 | | +3 | +3 | | | | |
| 10-25 | | +4 | +4 | | | | |
| ≥ 25 | | +6 | +6 | | | | |
| Albumin <30 g/l | | | | | | | +1 |
| INR >1.5 | | | | | | | +1 |
| Alteration in mental status | | | | | | | +1 |

Supplementary Figure 1: Sensitivity/Specificity of UGIB scores predicting need for intervention or in-hospital death by threshold



Supplementary Figure 2: Calibration curves for AIMS 65 and pre-endoscopic Rockall score



A: Calibration curves using the initial published prediction

B: Calibration curves corrected by using calibration slope as a shrinkage factor

Supplementary Table 2: Positive (PPV) and negative predictive value (NPV) and positive and negative likelihood ratio (LR) by scores' threshold.

| PERS - Primary outcome (Need for intervention or in-hospital death) | | | | | | |
|---|-------------|-------------|-------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 98.3 | 8.3 | 29.2 | 92.9 | 1.1 | 0.2 |
| 1 | 96.2 | 10.1 | 29.1 | 87.4 | 1.1 | 0.4 |
| 2 | 86.5 | 37.4 | 34.7 | 87.8 | 1.4 | 0.4 |
| 3 | 52.8 | 65.0 | 36.7 | 78.2 | 1.5 | 0.7 |
| 4 | 19.2 | 92.0 | 47.9 | 74.8 | 2.4 | 0.9 |
| 5 | 5.5 | 98.4 | 56.1 | 73.0 | 3.3 | 1.0 |
| 6 | 0.5 | 100.0 | 100.0 | 72.4 | - | 1.0 |

| AIMS 65 - Primary outcome (Need for intervention or in-hospital death) | | | | | | |
|--|-------------|-------------|-------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 85.6 | 41.8 | 36.1 | 88.3 | 1.5 | 0.3 |
| 1 | 36.7 | 85.5 | 49.4 | 77.9 | 2.5 | 0.7 |
| 2 | 7.4 | 98.7 | 68.9 | 73.5 | 5.8 | 0.9 |
| 3 | 0.5 | 100.0 | 100.0 | 72.4 | | 1.0 |

| GBS - Primary outcome (Need for intervention or in-hospital death) | | | | | | |
|--|-------------|-------------|-------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 99.8 | 11.6 | 30.2 | 99.2 | 1.1 | 0.02 |
| 1 | 98.3 | 20.0 | 32.1 | 96.9 | 1.2 | 0.08 |
| 2 | 97.6 | 28.1 | 34.3 | 96.9 | 1.4 | 0.08 |
| 3 | 95.7 | 37.8 | 37.1 | 95.8 | 1.5 | 0.11 |
| 4 | 94.3 | 45.3 | 39.8 | 95.4 | 1.7 | 0.13 |
| 5 | 91.9 | 51.2 | 42.0 | 94.3 | 1.9 | 0.16 |
| 6 | 87.7 | 57.9 | 44.4 | 92.4 | 2.1 | 0.21 |
| 7 | 79.9 | 64.0 | 46.0 | 89.2 | 2.2 | 0.31 |
| 8 | 71.8 | 68.6 | 46.8 | 86.4 | 2.3 | 0.41 |
| 9 | 62.8 | 74.3 | 48.4 | 83.9 | 2.4 | 0.50 |
| 10 | 50.9 | 80.7 | 50.4 | 81.1 | 2.6 | 0.61 |
| 11 | 36.7 | 87.2 | 52.4 | 78.2 | 2.9 | 0.72 |
| 12 | 26.1 | 91.3 | 53.4 | 76.3 | 3.0 | 0.81 |
| 13 | 14.7 | 96.5 | 62 | 74.7 | 4.2 | 0.88 |
| 14 | 8.8 | 98.5 | 69.8 | 73.8 | 6.0 | 0.92 |
| 15 | 3.1 | 99.6 | 72.2 | 72.8 | 6.8 | 0.97 |
| 16 | 2.1 | 100.0 | 100.0 | 72.7 | - | 0.98 |
| 17 | 0.7 | 100.0 | 100.0 | 72.4 | - | 0.99 |

| mGBS - Primary outcome (Need for intervention or in-hospital death) | | | | | | |
|---|-------------|-------------|-------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 99.5 | 21.1 | 32.6 | 99.1 | 1.3 | 0.02 |
| 1 | 97.4 | 28.4 | 34.3 | 96.6 | 1.4 | 0.09 |
| 2 | 97.4 | 36.1 | 36.9 | 97.3 | 1.5 | 0.07 |
| 3 | 95.5 | 45.0 | 40.0 | 96.3 | 1.7 | 0.1 |
| 4 | 92.2 | 52.2 | 42.6 | 94.6 | 1.9 | 0.15 |
| 5 | 89.8 | 57.7 | 44.9 | 93.6 | 2.1 | 0.17 |
| 6 | 77.7 | 65.6 | 46.5 | 88.5 | 2.3 | 0.34 |
| 7 | 70.6 | 71.4 | 48.7 | 86.4 | 2.5 | 0.41 |
| 8 | 62.1 | 75.3 | 49.2 | 83.8 | 2.5 | 0.50 |
| 9 | 50.2 | 79.4 | 48.4 | 80.6 | 2.4 | 0.62 |
| 10 | 29.2 | 91.5 | 56.7 | 77.1 | 3.4 | 0.77 |
| 11 | 17.1 | 96.5 | 64.9 | 75.2 | 4.8 | 0.86 |
| 12 | 6.9 | 99.2 | 76.3 | 73.5 | 8.4 | 0.93 |
| 13 | 3.3 | 99.8 | 87.5 | 72.9 | 18.2 | 0.97 |
| 14 | 1.2 | 99.9 | 83.3 | 72.5 | 13.0 | 0.99 |
| 15 | 0.2 | 99.9 | 100.0 | 72.3 | - | 1.00 |
| 16 | 0 | 100.0 | - | 72.3 | - | 1.00 |

| PERS - Secondary outcome (In-hospital death) | | | | | | |
|--|-------------|-------------|------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 100.0 | 6.8 | 5.3 | 100 | 1.1 | 0 |
| 1 | 97.4 | 8.7 | 5.3 | 98.4 | 1.1 | 0.3 |
| 2 | 92.1 | 32.0 | 6.6 | 98.7 | 1.4 | 0.2 |
| 3 | 71.1 | 61.7 | 8.9 | 97.6 | 1.9 | 0.5 |
| 4 | 34.2 | 90.1 | 15.4 | 96.3 | 3.5 | 0.7 |
| 5 | 14.5 | 97.9 | 26.8 | 95.6 | 7.0 | 0.9 |
| 6 | 0.0 | 99.9 | - | 95.0 | - | 1.0 |

| AIMS 65 - Secondary outcome (In-hospital death) | | | | | | |
|---|-------------|-------------|------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 98.7 | 35.9 | 7.5 | 99.8 | 1.5 | 0.04 |
| 1 | 61.8 | 81.5 | 15.0 | 97.6 | 3.3 | 0.5 |
| 2 | 14.5 | 97.7 | 24.4 | 95.6 | 6.2 | 0.9 |
| 3 | 0.0 | 99.9 | 0 | 95.0 | 0 | 1.0 |
| 4 | 0.0 | 100.0 | - | 95.0 | - | 1.0 |

| GBS - Secondary outcome (In-hospital death) | | | | | | |
|---|-------------|-------------|------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 100.0 | 8.9 | 5.5 | 100 | 1.1 | 0 |
| 1 | 96.1 | 15.5 | 5.6 | 98.7 | 1.1 | 0.25 |
| 2 | 96.1 | 21.9 | 6.1 | 99.1 | 1.2 | 0.18 |
| 3 | 94.7 | 29.7 | 6.6 | 99.1 | 1.3 | 0.18 |
| 4 | 92.1 | 35.7 | 7.0 | 98.9 | 1.4 | 0.22 |
| 5 | 86.8 | 40.6 | 7.1 | 98.3 | 1.5 | 0.32 |
| 6 | 82.9 | 46.7 | 7.6 | 98.1 | 1.6 | 0.37 |
| 7 | 73.7 | 53.2 | 7.6 | 97.5 | 1.6 | 0.50 |
| 8 | 64.5 | 58.6 | 7.6 | 96.9 | 1.6 | 0.61 |
| 9 | 56.6 | 65.1 | 7.9 | 96.6 | 1.6 | 0.67 |
| 10 | 47.4 | 72.9 | 8.4 | 96.3 | 1.8 | 0.72 |
| 11 | 36.8 | 81.5 | 9.5 | 96.1 | 2.0 | 0.78 |
| 12 | 25.0 | 87.1 | 16.0 | 95.7 | 1.9 | 0.86 |
| 13 | 21.1 | 94.2 | 17.0 | 95.8 | 3.6 | 0.84 |
| 14 | 11.8 | 96.9 | 22.2 | 95.4 | 3.9 | 0.91 |
| 15 | 5.3 | 99.0 | 22.2 | 95.2 | 5.4 | 0.96 |
| 16 | 2.6 | 99.5 | 33.3 | 95.1 | 5.4 | 0.98 |
| 17 | 1.3 | 99.9 | - | 95.1 | 9.5 | 0.99 |
| 18 | 0.0 | 100.00 | | 95.0 | - | 1.00 |

| mGBS - Secondary outcome (In-hospital death) | | | | | | |
|--|-------------|-------------|------|------|------|------|
| Threshold | Sensibility | Specificity | PPV | NPV | LR + | LR - |
| 0 | 98.68 | 16.12 | 5.8 | 99.6 | 1.2 | 0.08 |
| 1 | 96.05 | 22.15 | 6.1 | 99.1 | 1.2 | 0.18 |
| 2 | 96.05 | 28.03 | 6.6 | 99.3 | 1.3 | 0.14 |
| 3 | 93.42 | 35.22 | 7.1 | 99.0 | 1.4 | 0.19 |
| 4 | 88.16 | 41.38 | 7.3 | 98.5 | 1.5 | 0.29 |
| 5 | 84.21 | 46.02 | 7.6 | 98.2 | 1.6 | 0.34 |
| 6 | 73.68 | 55.02 | 7.9 | 97.5 | 1.6 | 0.48 |
| 7 | 67.11 | 61.18 | 8.3 | 97.2 | 1.7 | 0.54 |
| 8 | 60.53 | 66.30 | 8.6 | 97.0 | 1.8 | 0.60 |
| 9 | 47.37 | 72.18 | 8.2 | 96.3 | 1.7 | 0.73 |
| 10 | 31.58 | 86.64 | 11.1 | 96.0 | 2.4 | 0.79 |
| 11 | 21.05 | 93.43 | 14.4 | 95.7 | 3.2 | 0.85 |
| 12 | 13.16 | 98.06 | 26.3 | 95.5 | 6.8 | 0.89 |
| 13 | 6.58 | 99.24 | 31.3 | 95.3 | 8.6 | 0.94 |
| 14 | 1.32 | 99.65 | 16.7 | 95.0 | 3.8 | 0.99 |
| 15 | 0.00 | 99.93 | 0 | 95.0 | 0 | 1.00 |
| 16 | 0.00 | 100.00 | - | 95.0 | - | 1.00 |